

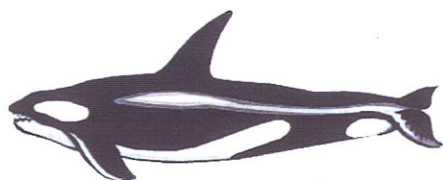


# Sharing the Sound with Killer Whales

## Whale Watching Etiquette in Washington State

### Special Needs

The number of southern resident killer whales has dropped from nearly 100 whales in the mid 1990's to just above 80 whales in 2000. Scientists believe that several issues may be affecting the decline. Some possible contributing factors are environmental pollution and contaminants, reduced prey availability, and stresses associated with increased vessel traffic and whale watching activities in the San Juan Islands. Researchers are working to design the needed studies to determine if and to what degree each of these issues may be effecting the killer whales.



### Points to Remember

#### *Two Communities, Several Pods:*

Killer whales, also called orcas, are the largest members of the dolphin family. Killer whales are top-level predators that travel in groups called "pods". Two types of killer whales, transients and residents, inhabit Puget Sound seasonally. Transient killer whales typically travel in smaller pods and hunt marine mammals for food. Little is known about the highly mobile transient whales and they are seen less often than resident whales. The resident whales in the San Juan Archipelago and Puget Sound are called "southern residents" to differentiate them from the "northern resident" whales that are found in northern British Columbia and Southeast Alaska. The southern resident community consists of three distinct pods (J, K & L). Resident whales prefer to eat fish over marine mammals.

#### *A Three Dimensional World:*

Killer whales live in a three dimensional, underwater world that connects to our own at the water's surface. Surface water temperatures vary seasonally but sub-surface temperatures stay relatively constant throughout the year at about 50 degrees fahrenheit. Light is filtered by the water and visibility can change dramatically from the influences of storms, run off from rivers, and localized algal blooms. Sound travels faster and farther under water than in air. Tidal fluctuations and currents effect the movements and location of food. Seasonal migrations of salmon from the ocean to inland waters change the abundance and nutritional value of the prey available to killer whales. Killer whales are well adapted to live in the three dimensional world even though they must return to the surface to breath.



#### *An Interesting Creature:*

To keep warm in the cool marine water, killer whales rely on an insulating layer of fatty blubber, under their skin. To maintain their blubber layer and stay healthy, an adult killer whale must consume about 250 pounds of fish per day. Killer whales rely much more on sound than sight in their world, because visibility is so variable. To find and catch prey, even in low light or cloudy water, killer whales have highly developed "echolocation" capabilities that can be used to "see" using sound. The whales produce a clicking sound and then listen for returning echos that bounce off surrounding objects (e.g. bottom topography, kelp, boats and fish). Killer whales also use sound to communicate with one another. Southern resident killer whales return to "traditional" feeding and resting areas, such as Haro Strait, every year in order to take advantage of concentrations of migrating salmon.



### Things You Can Do to Promote Responsible Wildlife Viewing

#### *Share the Space:*

• When you see whales, give them space to move around and follow their own path. The NMFS viewing guidelines recommend a minimum approach distance of 100 yards. The approach limitation will minimize the potential for disturbing the whales if they are resting, or causing them to expend more energy to avoid vessels if they are trying to feed.

• Help minimize the need for whales to expend energy to avoid contact. Even human powered vessels have an "acoustic signature" under water, but the whales may be pre-occupied with their own activities, so remember to avoid paddling into the path of the whales. (Note that most of a whale's activity is underwater but it must surface to breath. Vessels "overhead" may force the animals to change direction and swim farther to avoid coming up beneath them, while at the same time trying to catch prey successfully.)

• Operate motorized vessels at low speeds to keep noise to a minimum. Motorized vessels make noise underwater in a number of different ways. Engine exhaust, propellor noise, electronic depth finders and hull vibrations all contribute to vessel noise. High speed maneuvering increases the noise and the risk of collision. Sound travels underwater in a complex way and, under some conditions, noise from vessels close by could interfere with a whale's ability to interpret its echolocation or communication signals. (Note: The intense sounds produced by modern depth sounders and fish finders are well within the hearing range of killer whales, so it is suggested that these devices be turned off or placed on standby when not in use.)

• Limit your time with the whales. Hundreds of vessels per week spend time following these whales throughout the daylight hours. Provide an example for others by maintaining your distance. More vessels can have a clear view, if all vessels maintain their distance.

• Take advantage of onshore viewing opportunities when possible and, when operating a vessel, remember not to crowd in close to shore or block the view for those onshore. On San Juan Island, Lime Kiln State Park is a good vantage point to watch passing whales.

#### *Share Information:*

• Explain to your passengers that there is concern over the recent decline in the number of southern resident killer whales and the possible impact that vessel traffic may be adding to the problem.

• If you see an injured or dead killer whale while on the water, contact the Whale Hotline at 1-800-562-8832 or The Whale Museum at 1-800-946-7227.

#### *Report Harassment:*

• If you see vessels maneuvering in an unsafe manner close to whales or chasing them or witness a collision with a whale, take time to note detailed information on what you observed, a vessel description and identification numbers to help in an investigation of the incident, then contact the NMFS Office for Law Enforcement at (360) 676-9268 or 1-800-853-1964.

#### *Check These Web Sites For More Information:*

- About The Whales - Visit The Whale Museum at [www.whale-museum.org](http://www.whale-museum.org)
- About Whale Etiquette - Visit NOAA at [www.nmfs.noaa.gov/prot\\_res/MMWatch/MMViewing](http://www.nmfs.noaa.gov/prot_res/MMWatch/MMViewing)
- About Whales Using Sound - Visit WhaleLink at [www.whalelink.org](http://www.whalelink.org)